

## SEQUENCE LISTING

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 MOHAMMADI, MOOSA

<120> CRYSTAL STRUCTURES OF DOMAINS OF RECEPTOR PROTEIN  
 TYROSINE KINASES AND THEIR LIGANDS

<130> 038602/1306

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 <151> 2000-08-30

<150> 60/151,810  
 <151> 1999-08-30

<160> 202

<170> PatentIn Ver. 2.1

<210> 1  
 <211> 211  
 <212> PRT  
 <213> Homo sapiens

<400> 1  
 Met Pro Val Ala Pro Tyr Trp Thr Ser Pro Glu Lys Met Glu Lys Lys  
 1 5 10 15  
 Leu His Ala Val Pro Ala Ala Lys Thr Val Lys Phe Lys Cys Pro Ser  
 20 25 30  
 Ser Gly Thr Pro Asn Pro Thr Leu Arg Trp Leu Lys Asn Gly Lys Glu  
 35 40 45  
 Phe Lys Pro Asp His Arg Ile Gly Gly Tyr Lys Val Arg Tyr Ala Thr  
 50 55 60  
 Trp Ser Ile Ile Met Asp Ser Val Val Pro Ser Asp Lys Gly Asn Tyr  
 65 70 75 80  
 Thr Cys Ile Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr Gln  
 85 90 95  
 Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly  
 100 105 110  
 Leu Pro Ala Asn Lys Thr Val Ala Leu Gly Ser Asn Val Glu Phe Met  
 115 120 125  
 Cys Lys Val Tyr Ser Asp Pro Gln Pro His Ile Gln Trp Leu Lys His  
 130 135 140

Ile Glu Val Asn Gly Ser Lys Ile Gly Pro Asp Asn Leu Pro Tyr Val  
 145 150 155 160  
 Gln Ile Leu Lys Thr Ala Gly Val Asn Thr Thr Asp Lys Glu Met Glu  
 165 170 175  
 Val Leu His Leu Arg Asn Val Ser Phe Glu Asp Ala Gly Glu Tyr Thr  
 180 185 190  
 Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser His His Ser Ala Trp Leu  
 195 200 205  
 Thr Val Leu  
 210

<210> 2  
 <211> 211  
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 <213> Homo sapiens

<400> 2  
 Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg  
 1 5 10 15  
 Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala  
 20 25 30  
 Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu  
 35 40 45  
 Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His  
 50 55 60  
 Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr  
 65 70 75 80  
 Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His  
 85 90 95  
 Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly  
 100 105 110  
 Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val  
 115 120 125  
 Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His  
 130 135 140  
 Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu  
 145 150 155 160  
 Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu  
 165 170 175  
 Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr  
 180 185 190

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu  
 195 200 205

Thr Val Leu  
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<210> 3

<211> 211

<212> PRT

<213> Homo sapiens

<400> 3

Asp Thr Gly Ala Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys  
 1 5 10 15

Leu Leu Ala Val Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala  
 20 25 30

Ala Gly Thr Pro Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly Arg Glu  
 35 40 45

Phe Arg Gly Glu His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln  
 50 55 60

Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr  
 65 70 75 80

Thr Cys Val Val Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr  
 85 90 95

Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly  
 100 105 110

Leu Pro Ala Asn Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His  
 115 120 125

Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His  
 130 135 140

Val Glu Val Asn Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val  
 145 150 155 160

Thr Val Leu Lys Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu  
 165 170 175

Val Leu Ser Leu His Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr  
 180 185 190

Cys Leu Ala Gly Asn Ser Ile Gly Phe Ser His His Ser Ala Trp Leu  
 195 200 205

Val Val Leu  
 210

<210> 4

<211> 209

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4

Pro Gln Gln Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys  
 1 5 10 15  
 Leu His Ala Val Pro Ala Cys Asn Thr Val Lys Phe Arg Cys Pro Ala  
 20 25 30  
 Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala  
 35 40 45  
 Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg Tyr His Gln  
 50 55 60  
 His Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr  
 65 70 75 80  
 Thr Cys Leu Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu  
 85 90 95  
 Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly  
 100 105 110  
 Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser Asn Asp Glu Leu Leu  
 115 120 125  
 Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His  
 130 135 140  
 Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Val Gly Thr Pro Tyr Val  
 145 150 155 160  
 Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu  
 165 170 175  
 Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu  
 180 185 190  
 Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val  
 195 200 205

Leu

&lt;210&gt; 5

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5

Met Pro Val Ala Pro Tyr Trp Thr Ser Pro Glu Lys Met Glu Lys Lys  
 1 5 10 15  
 Leu His Ala Val Pro Ala Ala Lys Thr Val Lys Phe Arg Cys Pro Ser  
 20 25 30



Phe Arg Gly Glu His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln  
 50 55 60  
 Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr  
 65 70 75 80  
 Thr Cys Val Val Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr  
 85 90 95  
 Leu Asp Val Leu Glu Arg Ser  
 100

<210> 8  
 <211> 103  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
 Pro Gln Gln Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys  
 1 5 10 15  
 Leu His Ala Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala  
 20 25 30  
 Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala  
 35 40 45  
 Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His  
 50 55 60  
 Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr  
 65 70 75 80  
 Thr Cys Leu Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu  
 85 90 95  
 Leu Asp Val Leu Glu Arg Ser  
 100

<210> 9  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 9  
 Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Lys Thr Val  
 1 5 10 15  
 Ala Leu Gly Ser Asn Val Glu Phe Met Cys Lys Val Tyr Ser Asp Pro  
 20 25 30  
 Gln Pro His Ile Gln Trp Leu Lys His Ile Glu Val Asn Gly Ser Lys  
 35 40 45

Ile Gly Pro Asp Asn Leu Pro Tyr Val Gln Ile Leu Lys Thr Ala Gly  
 50 55 60  
 Val Asn Thr Thr Asp Lys Glu Met Glu Val Leu His Leu Arg Asn Val  
 65 70 75 80  
 Ser Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile  
 85 90 95  
 Gly Leu Ser His His Ser Ala Trp Leu Thr Val Leu  
 100 105

<210> 10  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 10  
 Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr  
 1 5 10 15  
 Val Val Gly Gly Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala  
 20 25 30  
 Gln Pro His Ile Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys  
 35 40 45  
 Tyr Gly Pro Asp Gly Leu Pro Tyr Leu Lys Val Leu Lys Ala Ala Gly  
 50 55 60  
 Val Asn Thr Thr Asp Lys Glu Ile Glu Val Leu Tyr Ile Arg Asn Val  
 65 70 75 80  
 Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile  
 85 90 95  
 Gly Ile Ser Phe His Ser Ala Trp Leu Thr Val Leu  
 100 105

<210> 11  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 11  
 Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Gln Thr Ala  
 1 5 10 15  
 Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr Ser Asp Ala  
 20 25 30  
 Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn Gly Ser Lys  
 35 40 45  
 Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys Thr Ala Gly  
 50 55 60

Ala Asn Thr Thr Asp Lys Glu Leu Glu Val Leu Ser Leu His Asn Val  
 65 70 75 80  
 Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile  
 85 90 95  
 Gly Phe Ser His His Ser Ala Trp Leu Val Val Leu  
 100 105

<210> 12  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

<400> 12  
 Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala  
 1 5 10 15  
 Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala  
 20 25 30  
 Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser  
 35 40 45  
 Phe Gly Ala Val Gly Phe Pro Tyr Leu Lys Val Val Gln Thr Ala Asp  
 50 55 60  
 Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala  
 65 70 75 80  
 Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu  
 85 90 95  
 Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu  
 100 105

<210> 13  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

<400> 13  
 Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Lys Thr Val  
 1 5 10 15  
 Ala Leu Gly Ser Asn Val Glu Phe Met Cys Lys Val Tyr Ser Asp Pro  
 20 25 30  
 Gln Pro His Ile Gln Trp Leu Lys His Ile Glu Val Asn Gly Ser Lys  
 35 40 45  
 Ile Gly Pro Asp Asn Leu Pro Tyr Val Gln Ile Leu Lys His Ser Gly  
 50 55 60



Ile Asn Ser Ser Asp Ala Glu Val Leu Thr Leu Phe Asn Val Thr Glu  
65 70 75 80

Ala Gln Ser Gly Glu Tyr Val Cys Lys Val Ser Asn Tyr Ile Gly Glu  
85 90 95

Ala Asn Gln Ser Ala Trp Leu Thr Val Thr  
100 105

<210> 14

<211> 106

<212> PRT

<213> Homo sapiens

<400> 14

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr  
1 5 10 15

Val Val Gly Gly Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala  
20 25 30

Gln Pro His Ile Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys  
35 40 45

Tyr Gly Pro Asp Gly Leu Pro Tyr Leu Lys Val Leu Lys His Ser Gly  
50 55 60

Ile Asn Ser Ser Asn Ala Glu Val Leu Ala Leu Phe Asn Val Thr Glu  
65 70 75 80

Ala Asp Ala Gly Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln  
85 90 95

Ala Asn Gln Ser Ala Trp Leu Thr Val Leu  
100 105

<210> 15

<211> 108

<212> PRT

<213> Homo sapiens

<400> 15

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Gln Thr Ala  
1 5 10 15

Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr Ser Asp Ala  
20 25 30

Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn Gly Ser Lys  
35 40 45

Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys Thr Ser Trp  
50 55 60

Ile Ser Glu Ser Val Glu Ala Asp Val Arg Leu Arg Leu Ala Asn Val  
65 70 75 80

Ser Glu Arg Asp Gly Glu Tyr Thr Leu Cys Arg Ala Thr Asn Phe Ile  
 85 90 95

Gly Val Ala Glu Lys Ala Phe Ala Trp Ser Val His  
 100 105

<210> 16  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
 Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Lys Thr Val  
 1 5 10 15  
 Ala Leu Gly Ser Asn Val Glu Phe Met Cys Lys Val Tyr Ser Asp Pro  
 20 25 30  
 Gln Pro His Ile Gln Trp Leu Lys His Ile Glu Val Asn Gly Ser Lys  
 35 40 45  
 Ile Gly Pro Asp Asn Leu Pro Tyr Val Gln Ile Leu Lys Val Ile Met  
 50 55 60  
 Ala Pro Val Phe Val Gly Gln Ser Thr Gly Lys Glu Thr Thr Val Ser  
 65 70 75 80  
 Gly Ala Gln Val Pro Val Gly Arg Leu Ser Cys Pro Arg Met Gly Ser  
 85 90 95  
 Phe Leu Thr Leu Gln Ala His Thr Leu His Leu Ser  
 100 105

<210> 17  
 <211> 132  
 <212> PRT  
 <213> Homo sapiens

<400> 17  
 Pro Gly Asn Tyr Lys Lys Pro Lys Leu Leu Tyr Cys Ser Asn Gly His  
 1 5 10 15  
 Phe Leu Arg Ile Leu Pro Asp Gly Thr Val Asp Gly Asp Arg Ser Asp  
 20 25 30  
 Gln His Ile Gln Leu Gln Leu Ser Ala Glu Ser Val Glu Val Tyr Ile  
 35 40 45  
 Lys Ser Thr Glu Thr Gly Gln Tyr Leu Ala Met Asp Thr Asp Gly Leu  
 50 55 60  
 Leu Tyr Gly Ser Gln Thr Pro Asn Glu Glu Cys Leu Phe Leu Glu Arg  
 65 70 75 80



Ser Ala Tyr Ser Ile Leu Glu Ile Thr Ala Val Glu Val Gly Ile Val  
35 40 45

Ala Ile Arg Gly Leu Phe Ser Gly Arg Tyr Leu Ala Met Asn Lys Arg  
50 55 60

Gly Arg Leu Tyr Ala Ser Glu His Tyr Ser Ala Glu Cys Glu Phe Val  
65 70 75 80

Glu Arg Ile His Glu Leu Gly Tyr Asn Thr Tyr Ala Ser Arg Leu Tyr  
85 90 95

Arg Thr Val Ser Ser Thr Pro Gly Ala Arg Arg Gln Pro Ser Ala Glu  
100 105 110

Arg Leu Trp Tyr Val Ser Val Asn Gly Lys Gly Arg Pro Arg Arg Gly  
115 120 125

Phe Lys Thr Arg Arg Thr Gln Lys Ser Ser Leu Phe Leu Pro Arg Val  
130 135 140

Leu Asp His Arg Asp His  
145 150

<210> 20  
<211> 132  
<212> PRT  
<213> Homo sapiens

<400> 20  
Leu Leu Gly Ile Pro Arg Leu Arg Arg Leu Tyr Cys Asn Val Gly Ile  
1 5 10 15

Gly Phe His Leu Gln Ala Leu Pro Asp Gly Arg Ile Gly Gly Ala His  
20 25 30

Ala Asp Thr Arg Asp Ser Leu Leu Glu Glu Leu Ser Pro Val Glu Arg  
35 40 45

Gly Val Val Ser Ile Phe Gly Val Ala Ser Arg Phe Phe Val Ala Met  
50 55 60

Ser Ser Lys Gly Lys Leu Tyr Tyr Gly Ser Pro Phe Phe Thr Asp Glu  
65 70 75 80

Cys Thr Phe Lys Glu Ile Leu Leu Pro Asn Asn Tyr Asn Ala Tyr Glu  
85 90 95

Ser Tyr Lys Tyr Pro Gly Met Phe Ile Ala Leu Ser Lys Asn Gly Lys  
100 105 110

Thr Lys Lys Gly Asn Arg Val Ser Pro Thr Met Lys Val Thr His Phe  
115 120 125

Leu Pro Arg Leu  
130

<210> 21  
 <211> 143  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
 Ser Pro Ser Gly Arg Arg Thr Gly Ser Leu Tyr Cys Arg Val Gly Ile  
 1 5 10 15  
 Gly Phe His Leu Gln Ile Tyr Pro Asp Gly Lys Val Asn Gly Ser His  
 20 25 30  
 Glu Ala Asn Met Leu Ser Val Leu Glu Ile Phe Ala Val Ser Gln Gly  
 35 40 45  
 Ile Val Gly Ile Arg Gly Val Phe Ser Asn Lys Phe Leu Ala Met Ser  
 50 55 60  
 Lys Lys Gly Lys Leu His Ala Ser Ala Lys Phe Thr Asp Asp Cys Lys  
 65 70 75 80  
 Phe Arg Glu Arg Phe Gln Glu Asn Ser Asn Tyr Thr Tyr Ala Ser Ala  
 85 90 95  
 Ala Ile His Arg Thr Glu Lys Thr Gly Arg Glu Trp Tyr Val Ala Leu  
 100 105 110  
 Asn Lys Arg Gly Lys Ala Lys Arg Gly Cys Ala Pro Arg Val Lys Gln  
 115 120 125  
 His Ile Ser Thr Phe Leu Pro Arg Phe Lys Gln Ser Glu Gln Pro  
 130 135 140

<210> 22  
 <211> 130  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Leu Val Gly Ile Lys Arg Gln Arg Arg Leu Tyr Cys Asn Val Gly Ile  
 1 5 10 15  
 Gly Phe His Leu Gln Val Leu Pro Asp Gly Arg Ile Ser Gly Thr His  
 20 25 30  
 Glu Glu Asn Pro Tyr Ser Leu Leu Glu Ile Ser Thr Val Glu Arg Gly  
 35 40 45  
 Val Val Ser Leu Phe Gly Val Arg Ser Ala Leu Phe Val Ala Met Asn  
 50 55 60  
 Ser Lys Gly Arg Leu Tyr Ala Thr Pro Ser Gln Phe Glu Glu Cys Lys  
 65 70 75 80



Asp Gly Asp Pro Phe Ala Lys Leu Ile Val Glu Thr Asp Thr Phe Gly  
                   35                                    40                                    45  
 Ser Arg Val Arg Val Arg Gly Ala Glu Thr Gly Leu Tyr Ile Cys Met  
           50  55                                    60  
 Asn Lys Lys Gly Lys Leu Ile Ala Lys Ser Asn Gly Lys Gly Lys Asp  
   65  70                                    75                                    80  
 Cys Val Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr Ala Leu Gln  
                                   85                                    90                                    95  
 Asn Ala Lys Tyr Glu Gly Trp Tyr Met Ala Phe Thr Arg Lys Gly Arg  
                   100                                    105                                    110  
 Pro Arg Lys Gly Ser Lys Thr Arg Gln His Gln Arg Glu Val His Phe  
           115                                    120                                    125  
 Met Lys Arg Leu Pro Arg Gly His His Thr  
   130                                    135

<210> 25

<211> 141

<212> PRT

<213> Homo sapiens

<400> 25

Leu Lys Gly Ile Leu Arg Arg Arg Gln Leu Tyr Cys Arg Thr Gly Phe  
   1                                  5                                    10                                    15  
 His Leu Glu Ile Phe Pro Asn Gly Thr Ile Gln Gly Thr Arg Lys Asp  
           20                                    25                                    30  
 His Ser Arg Phe Gly Ile Leu Glu Phe Ile Ser Ile Ala Val Gly Leu  
           35                                    40                                    45  
 Val Ser Ile Arg Gly Val Asp Ser Gly Leu Tyr Leu Gly Met Asn Glu  
   50                                    55                                    60  
 Lys Gly Glu Leu Tyr Gly Ser Glu Lys Leu Thr Gln Glu Cys Val Phe  
   65                                    70                                    75                                    80  
 Arg Glu Gln Phe Glu Glu Asn Trp Tyr Asn Thr Tyr Ser Ser Asn Leu  
                                   85                                    90                                    95  
 Tyr Lys His Val Asp Thr Gly Arg Arg Tyr Tyr Val Ala Leu Asn Lys  
           100                                    105                                    110  
 Asp Gly Thr Pro Arg Glu Gly Thr Arg Thr Lys Arg His Gln Lys Phe  
           115                                    120                                    125  
 Thr His Phe Leu Pro Arg Pro Ala Asp Pro Asp Lys Val  
   130                                    135                                    140

<210> 26  
 <211> 137  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
 Leu Gln Gly Asp Gly Val Arg Trp Lys Lys Leu Phe Ser Phe Thr Lys  
 1 5 10 15  
 Tyr Phe Leu Lys Ile Glu Lys Asn Gly Lys Val Ser Gly Thr Lys Lys  
 20 25 30  
 Glu Asn Cys Pro Tyr Ser Ile Leu Glu Ile Thr Ser Val Glu Ile Gly  
 35 40 45  
 Val Val Ala Val Lys Ala Ile Asn Ser Asn Tyr Tyr Leu Ala Met Asn  
 50 55 60  
 Lys Lys Gly Lys Leu Tyr Gly Ser Lys Glu Phe Asn Asn Asp Cys Lys  
 65 70 75 80  
 Leu Lys Glu Arg Ile Glu Glu Asn Gly Tyr Asn Thr Tyr Ala Ser Phe  
 85 90 95  
 Asn Trp Gln His Asn Gly Arg Gln Met Tyr Val Ala Leu Asn Gly Lys  
 100 105 110  
 Gly Ala Pro Arg Arg Gly Gln Lys Thr Arg Arg Lys Asn Thr Ser Ala  
 115 120 125  
 His Phe Leu Pro Met Val Ala His Ser  
 130 135

<210> 27  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 27  
 Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Phe Cys Arg Gln Gly Phe  
 1 5 10 15  
 Tyr Leu Gln Ala Asn Pro Asp Gly Ser Ile Gln Gly Thr Pro Glu Asp  
 20 25 30  
 Thr Ser Ser Phe Thr His Phe Asn Leu Ile Pro Val Gly Leu Arg Val  
 35 40 45  
 Val Thr Ile Gln Ser Ala Lys Leu Gly His Tyr Met Ala Met Asn Ala  
 50 55 60  
 Glu Gly Leu Leu Tyr Ser Ser Pro His Phe Thr Ala Glu Cys Arg Phe  
 65 70 75 80  
 Lys Glu Cys Val Phe Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu  
 85 90 95





Val Ala Ile Gln Gly Val Gln Thr Lys Leu Tyr Leu Ala Met Asn Ser  
 50 55 60

Glu Gly Tyr Leu Tyr Thr Glu Ser Glu Leu Phe Thr Pro Glu Cys Lys  
 65 70 75 80

Phe Lys Glu Ser Val Phe Glu Asn Tyr Tyr Val Thr Tyr Ser Met Ile  
 85 90 95

Tyr Arg Gln Gln Gln Ser Gly Arg Gly Trp Tyr Leu Gly Leu Asn Lys  
 100 105 110

Glu Gly Glu Ile Met Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala  
 115 120 125

Ala His Phe Leu Pro Lys Pro Leu Lys Val Ala Met Tyr  
 130 135 140

<210> 30  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Leu Gln Leu Lys Gly Ile Val Thr Arg Leu Tyr Cys Arg Gln Gly Tyr  
 1 5 10 15

Tyr Leu Gln Met His Pro Asp Gly Ala Leu Asp Gly Thr Lys Asp Asp  
 20 25 30

Ser Thr Asn Ser Thr Leu Phe Asn Leu Ile Pro Val Gly Leu Arg Val  
 35 40 45

Val Ala Ile Gln Gly Val Lys Thr Gly Leu Tyr Ile Ala Met Asn Gly  
 50 55 60

Glu Gly Tyr Leu Tyr Pro Ser Glu Leu Phe Pro Thr Pro Glu Cys Lys  
 65 70 75 80

Phe Lys Glu Ser Val Phe Glu Asn Tyr Tyr Val Ile Tyr Ser Ser Met  
 85 90 95

Leu Tyr Arg Gln Gln Glu Ser Gly Arg Ala Tyr Phe Leu Gly Val Asn  
 100 105 110

Lys Glu Gly Gln Ala Met Lys Gly Asn Arg Val Lys Lys Thr Lys Pro  
 115 120 125

Ala Ala His Phe Leu Pro Lys Pro Leu Glu Val Ala Met Tyr  
 130 135 140

<210> 31  
 <211> 134  
 <212> PRT  
 <213> Gallus sp.

&lt;400&gt; 31

Trp Gly Lys Ile Thr Arg Leu Gln Tyr Leu Tyr Ser Ala Gly Pro Tyr  
 1 5 10 15  
 Val Ser Asn Cys Phe Leu Arg Ile Arg Ser Asp Gly Ser Asp Gly Cys  
 20 25 30  
 Glu Glu Asp Gln Asn Glu Arg Asn Leu Leu Glu Phe Arg Ala Val Ala  
 35 40 45  
 Leu Lys Thr Ile Ala Ile Lys Asp Val Ser Ser Val Arg Tyr Leu Cys  
 50 55 60  
 Met Ser Ala Asp Gly Lys Ile Tyr Gly Leu Ile Arg Tyr Ser Glu Glu  
 65 70 75 80  
 Asp Cys Thr Phe Arg Glu Glu Met Asp Cys Leu Gly Tyr Asn Gln Tyr  
 85 90 95  
 Arg Ser Met Lys His His Leu His Ile Ile Phe Ile Gln Ala Lys Pro  
 100 105 110  
 Arg Glu Gln Leu Gln Asp Gln Lys Pro Ser Asn Phe Ile Pro Val Phe  
 115 120 125  
 His Arg Ser Phe Phe Glu  
 130

&lt;210&gt; 32

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 32

Leu Lys Gly Ile Leu Arg Arg Arg Gln Leu Tyr Cys Arg Thr Gly Phe  
 1 5 10 15  
 His Leu Glu Ile Phe Pro Asn Gly Thr Asp His Gly Thr Arg His Asp  
 20 25 30  
 His Ser Arg Phe Gly Ile Leu Glu Phe Ile Ser Leu Ala Val Gly Leu  
 35 40 45  
 Ile Ser Ile Arg Gly Val Asp Ser Gly Leu Tyr Leu Gly Met Asn Glu  
 50 55 60  
 Arg Gly Glu Leu Tyr Gly Ser Lys Lys Leu Thr Arg Glu Cys Val Phe  
 65 70 75 80  
 Arg Glu Gln Phe Glu Glu Asn Trp Tyr Asn Thr Tyr Ala Ser Thr Leu  
 85 90 95  
 Tyr Lys His Ser Asp Ser Glu Arg Gln Tyr Tyr Val Ala Leu Asn Lys  
 100 105 110

Asp Gly Ser Pro Arg Glu Gly Tyr Arg Thr Lys Arg His Gln Lys Phe  
 115 120 125

Thr His Phe Leu Pro Arg Pro Ala Asp Pro Ser Lys Leu  
 130 135 140

<210> 33  
 <211> 136  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Ser Arg Arg Gln Ile Arg Glu Tyr Gln Leu Tyr Ser Arg Thr Ser Gly  
 1 5 10 15  
 Lys His Val Gln Val Thr Gly Arg Arg Ile Ser Ala Thr Ala Glu Asp  
 20 25 30  
 Gly Asn Lys Phe Ala Lys Leu Ile Val Glu Thr Asp Thr Phe Gly Ser  
 35 40 45  
 Arg Val Arg Lys Gly Val Ala Glu Ser Lys Tyr Ile Cys Met Asn Lys  
 50 55 60  
 Arg Gly Lys Leu Ile Gly Lys Pro Ser Gly Lys Ser Lys Asp Cys Val  
 65 70 75 80  
 Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr Ala Phe Gln Asn Ala  
 85 90 95  
 Arg His Glu Gly Trp Phe Met Ala Phe Thr Arg Gln Gly Arg Pro Arg  
 100 105 110  
 Gln Ala Ser Arg Ser Arg Gln Asn Gln Arg Glu Ala His Phe Ile Lys  
 115 120 125  
 Arg Leu Tyr Gln Gly Gln Leu Pro  
 130 135

<210> 34  
 <211> 137  
 <212> PRT  
 <213> Homo sapiens

<400> 34  
 Ser Arg Lys Gln Leu Arg Leu Tyr Gln Leu Tyr Ser Arg Thr Ser Gly  
 1 5 10 15  
 Lys His Ile Gln Val Leu Gly Arg Arg Ile Ser Ala Arg Gly Glu Asp  
 20 25 30  
 Gly Pro Lys Tyr Ala Gln Leu Leu Val Glu Thr Asp Thr Phe Gly Ser  
 35 40 45  
 Gln Val Arg Ile Lys Gly Lys Glu Thr Glu Phe Tyr Leu Cys Met Asn  
 50 55 60

Arg Lys Gly Lys Leu Val Gly Lys Pro Asp Gly Thr Ser Lys Glu Cys  
 65 70 75 80  
 Val Phe Ile Glu Lys Val Leu Glu Asn Asn Tyr Thr Ala Leu Met Ser  
 85 90 95  
 Ala Lys Tyr Ser Gly Trp Tyr Val Gly Phe Thr Lys Lys Gly Arg Pro  
 100 105 110  
 Arg Lys Gly Pro Lys Thr Arg Glu Asn Gln Gln Asp Val His Phe Met  
 115 120 125  
 Lys Arg Tyr Pro Lys Gly Gln Pro Glu  
 130 135

<210> 35  
 <211> 137  
 <212> PRT  
 <213> Homo sapiens

<400> 35  
 Trp Gly Pro Ile Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly  
 1 5 10 15  
 Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Asp Gly Cys  
 20 25 30  
 Ala Arg Gly Gln Ser Ala Ile Ser Leu Leu Glu Ile Lys Ala Val Ala  
 35 40 45  
 Leu Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys  
 50 55 60  
 Met Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu  
 65 70 75 80  
 Asp Cys Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr  
 85 90 95  
 Arg Ser Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln  
 100 105 110  
 Arg Gln Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu  
 115 120 125  
 Pro Met Leu Pro Met Val Pro Glu Glu  
 130 135

<210> 36  
 <211> 39  
 <212> PRT  
 <213> Unknown Organism

<220>  
 <223> Description of Unknown Organism: SCF peptide

&lt;400&gt; 36

Glu Gly Ile Cys Arg Asn Arg Val Thr Asn Asn Val Lys Asp Val Thr  
 1 5 10 15

Lys Leu Val Ala Asn Leu Pro Lys Asp Tyr Met Ile Thr Leu Lys Tyr  
 20 25 30

Val Pro Gly Met Asp Val Leu  
 35

&lt;210&gt; 37

&lt;211&gt; 42

&lt;212&gt; PRT

&lt;213&gt; Unknown Organism

&lt;220&gt;

&lt;223&gt; Description of Unknown Organism: M-SCF peptide

&lt;400&gt; 37

Ser Glu Tyr Cys Ser His Met Ile Gly Ser Gly His Leu Gln Ser Leu  
 1 5 10 15

Gln Arg Leu Ile Asp Ser Gln Met Glu Thr Ser Cys Gln Ile Thr Phe  
 20 25 30

Glu Phe Val Asp Gln Glu Gln Leu Lys Asp  
 35 40

&lt;210&gt; 38

&lt;211&gt; 36

&lt;212&gt; PRT

&lt;213&gt; Unknown Organism

&lt;220&gt;

&lt;223&gt; Description of Unknown Organism: IL-5 peptide

&lt;400&gt; 38

Ile Pro Thr Ser Ala Leu Val Lys Glu Thr Leu Ala Leu Leu Ser Thr  
 1 5 10 15

His Arg Thr Leu Leu Ile Ala Asn Glu Thr Leu Arg Ile Pro Val Pro  
 20 25 30

Val His Lys Asn  
 35

&lt;210&gt; 39

&lt;211&gt; 59

&lt;212&gt; PRT

&lt;213&gt; Unknown Organism

&lt;220&gt;

&lt;223&gt; Description of Unknown Organism: SCF peptide

&lt;400&gt; 39

Pro Ser His Cys Trp Ile Ser Glu Met Val Val Gln Leu Ser Asp Ser  
 1 5 10 15

Leu Thr Asp Leu Leu Asp Lys Phe Ser Asn Ile Ser Glu Gly Leu Ser  
 20 25 30

Asn Tyr Ser Leu Ile Asp Lys Ile Val Asn Ile Val Asp Asp Leu Val  
 35 40 45

Glu Cys Val Lys Glu Asn Ser Ser Lys Asp Leu  
 50 55

&lt;210&gt; 40

&lt;211&gt; 50

&lt;212&gt; PRT

&lt;213&gt; Unknown Organism

&lt;220&gt;

&lt;223&gt; Description of Unknown Organism: M-SCF peptide

&lt;400&gt; 40

Pro Val Cys Tyr Leu Lys Lys Ala Phe Leu Leu Val Gln Asp Ile Met  
 1 5 10 15

Glu Asp Thr Met Arg Phe Arg Asp Asn Thr Pro Asn Ala Ile Ala Ile  
 20 25 30

Val Gln Leu Gln Glu Leu Ser Ile Arg Leu Lys Ser Cys Phe Thr Lys  
 35 40 45

Asp Tyr  
 50

&lt;210&gt; 41

&lt;211&gt; 48

&lt;212&gt; PRT

&lt;213&gt; Unknown Organism

&lt;220&gt;

&lt;223&gt; Description of Unknown Organism: IL-5 peptide

&lt;400&gt; 41

His Gln Leu Cys Thr Glu Glu Ile Phe Gln Gly Ile Gly Thr Leu Glu  
 1 5 10 15

Ser Gln Thr Val Gln Gly Gly Thr Val Glu Arg Leu Phe Lys Asn Leu  
 20 25 30

Ser Leu Ile Lys Lys Tyr Ile Asp Gly Gln Lys Lys Lys Cys Gly Glu  
 35 40 45

&lt;210&gt; 42

&lt;211&gt; 43

&lt;212&gt; PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: SCF peptide

<400> 42

Lys Lys Ser Phe Lys Ser Pro Glu Pro Arg Leu Phe Thr Pro Glu Glu  
 1 5 10 15

Phe Phe Arg Ile Phe Asn Arg Ser Ile Asp Ala Phe Lys Asp Phe Val  
 20 25 30

Val Ala Ser Glu Thr Ser Asp Cys Val Val Ser  
 35 40

<210> 43

<211> 56

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: M-SCF peptide

<400> 43

Glu Glu His Asp Lys Ala Cys Val Arg Thr Phe Tyr Glu Thr Pro Leu  
 1 5 10 15

Gln Leu Leu Glu Lys Val Lys Asn Val Phe Asn Glu Thr Lys Asn Leu  
 20 25 30

Leu Asp Lys Asp Trp Asn Ile Phe Ser Lys Asn Cys Asn Asn Ser Phe  
 35 40 45

Ala Glu Cys Ser Ser Gln Gly His  
 50 55

<210> 44

<211> 24

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: IL-5 peptide

<400> 44

Glu Arg Arg Arg Val Asn Gln Phe Leu Asp Tyr Leu Gln Glu Phe Leu  
 1 5 10 15

Gly Val Met Asn Thr Glu Trp Ile  
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<210> 45

<211> 141

<212> PRT

<213> Homo sapiens



&lt;400&gt; 45

Glu Gly Ile Cys Arg Asn Arg Val Thr Asn Asn Val Lys Asp Val Thr  
 1 5 10 15  
 Lys Leu Val Ala Asn Leu Pro Lys Asp Tyr Met Ile Thr Leu Lys Tyr  
 20 25 30  
 Val Pro Gly Met Asp Val Leu Pro Ser His Cys Trp Ile Ser Glu Met  
 35 40 45  
 Val Val Gln Leu Ser Asp Ser Leu Thr Asp Leu Leu Asp Lys Phe Ser  
 50 55 60  
 Asn Ile Ser Glu Gly Leu Ser Asn Tyr Ser Ile Ile Asp Lys Leu Val  
 65 70 75 80  
 Asn Ile Val Asp Asp Leu Val Glu Cys Val Lys Glu Asn Ser Ser Lys  
 85 90 95  
 Asp Leu Lys Lys Ser Phe Lys Ser Pro Glu Pro Arg Leu Phe Thr Pro  
 100 105 110  
 Glu Glu Phe Phe Arg Ile Phe Asn Arg Ser Ile Asp Ala Phe Lys Asp  
 115 120 125  
 Phe Val Val Ala Ser Glu Thr Ser Asp Cys Val Val Ser  
 130 135 140

&lt;210&gt; 46

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; Rattus sp.

&lt;400&gt; 46

Gln Glu Ile Cys Arg Asn Pro Val Thr Asp Asn Val Lys Asp Ile Thr  
 1 5 10 15  
 Lys Leu Val Ala Asn Leu Pro Asn Asp Tyr Met Ile Thr Leu Asn Tyr  
 20 25 30  
 Val Ala Gly Met Asp Val Leu Pro Ser His Cys Trp Leu Arg Asp Met  
 35 40 45  
 Val Thr His Ser Leu Val Ser Leu Thr Thr Leu Leu Asp Lys Phe Ser  
 50 55 60  
 Asn Ile Ser Glu Gly Leu Ser Asn Tyr Ser Ile Ile Asp Lys Leu Gly  
 65 70 75 80  
 Asn Ile Val Asp Asp Leu Val Ala Cys Met Glu Glu Asn Ala Pro Lys  
 85 90 95  
 Asn Val Lys Glu Ser Leu Lys Lys Pro Glu Thr Arg Asn Phe Thr Pro  
 100 105 110

Glu Glu Phe Phe Arg Ile Phe Asn Arg Ser Ile Asp Ala Phe Lys Asp  
 115 120 125

Phe Met Val Ala Ser Asp Thr Ser Asp Cys Val Leu Ser  
 130 135 140

<210> 47  
 <211> 141  
 <212> PRT  
 <213> Mus sp.

<400> 47  
 Lys Glu Ile Cys Gly Asn Pro Val Thr Asp Asn Val Lys Asp Ile Thr  
 1 5 10 15  
 Lys Leu Val Ala Asn Leu Pro Asn Asp Tyr Met Ile Thr Leu Asn Tyr  
 20 25 30  
 Val Ala Gly Met Asp Val Leu Pro Ser His Cys Trp Leu Arg Asp Met  
 35 40 45  
 Val Ile Gln Leu Ser Leu Ser Leu Thr Thr Leu Leu Asp Lys Phe Ser  
 50 55 60  
 Asn Ile Ser Glu Gly Leu Ser Asn Tyr Ser Ile Ile Asp Lys Leu Gly  
 65 70 75 80  
 Lys Ile Val Asp Asp Leu Val Leu Cys Met Glu Glu Asn Ala Pro Lys  
 85 90 95  
 Asn Ile Lys Glu Ser Pro Lys Arg Pro Glu Thr Arg Ser Phe Thr Pro  
 100 105 110  
 Glu Glu Phe Phe Ser Ile Phe Asn Arg Ser Ile Ala Asp Phe Lys Asp  
 115 120 125  
 Phe Met Val Ala Ser Asp Thr Ser Asp Cys Val Leu Ser  
 130 135 140

<210> 48  
 <211> 142  
 <212> PRT  
 <213> Canis familiaris

<400> 48  
 Lys Gly Ile Cys Gly Lys Arg Val Thr Asp Asp Val Lys Asp Val Thr  
 1 5 10 15  
 Lys Leu Val Ala Asn Leu Pro Lys Asp Tyr Lys Ile Ala Leu Lys Tyr  
 20 25 30  
 Val Pro Gly Met Asp Val Leu Pro Ser His Cys Trp Ile Ser Val Met  
 35 40 45  
 Val Glu Gln Leu Ser Val Ser Leu Thr Asp Leu Leu Asp Lys Phe Ser  
 50 55 60

Asn Ile Ser Glu Gly Leu Ser Asn Tyr Ser Ile Ile Asp Lys Leu Val  
65 70 75 80

Lys Ile Val Asp Asp Leu Val Glu Cys Thr Glu Gly Tyr Ser Phe Glu  
85 90 95

Asn Val Lys Lys Ala Pro Lys Ser Pro Glu Leu Arg Leu Phe Thr Pro  
100 105 110

Glu Glu Phe Phe Arg Ile Phe Asn Arg Ser Ile Asp Ala Phe Lys Asp  
115 120 125

Leu Glu Thr Val Ala Ser Lys Ser Ser Glu Cys Val Val Ser  
130 135 140

<210> 49

<211> 142

<212> PRT

<213> Sus scrofa

<400> 49

Gln Gly Ile Cys Arg Asn Arg Val Thr Asp Asp Val Lys Asp Val Thr  
1 5 10 15

Lys Leu Val Ala Asn Leu Pro Lys Asp Tyr Lys Ile Thr Leu Lys Tyr  
20 25 30

Val Pro Gly Met Asp Val Leu Pro Ser His Cys Trp Ile Ser Glu Met  
35 40 45

Val Glu Gln Leu Ser Val Ser Leu Thr Asp Leu Leu Asp Lys Phe Ser  
50 55 60

Asn Ile Ser Glu Gly Leu Ser Asn Tyr Ser Ile Ile Asp Lys Leu Gly  
65 70 75 80

Lys Ile Val Asp Asp Leu Val Glu Cys Met Glu Glu His Ser Phe Glu  
85 90 95

Asn Val Lys Lys Ser Ser Lys Ser Pro Glu Pro Arg Leu Phe Thr Pro  
100 105 110

Glu Lys Phe Phe Gly Ile Phe Asn Arg Ser Ile Asp Ala Phe Lys Asp  
115 120 125

Leu Glu Met Val Ala Pro Lys Thr Ser Glu Cys Val Ile Ser  
130 135 140

<210> 50

<211> 13

<212> PRT

<213> Homo sapiens

<400> 50  
 Gly His Phe Lys Asp Pro Lys Arg Leu Tyr Cys Lys Asn  
 1 5 10

<210> 51  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 51  
 Gly Gly Phe Phe Leu Arg Ile His Pro Asp Gly Arg Val  
 1 5 10

<210> 52  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 52  
 Asp Gly Val Arg Glu Lys Ser Asp Pro His Ile Lys Leu  
 1 5 10

<210> 53  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 53  
 Gln Leu Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys  
 1 5 10

<210> 54  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 54  
 Gly Val Ser Ala Asn Arg Tyr Leu Ala Met Lys Glu Asp  
 1 5 10

<210> 55  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 55  
 Gly Arg Leu Leu Ala Ser Lys Ser Val Thr Asp Glu Cys  
 1 5 10

<210> 56  
 <211> 13  
 <212> PRT

<213> Homo sapiens

<400> 56

Phe Phe Phe Glu Arg Leu Glu Ser Asn Asn Tyr Asn Thr  
 1 5 10

<210> 57

<211> 13

<212> PRT

<213> Homo sapiens

<400> 57

Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala Leu  
 1 5 10

<210> 58

<211> 13

<212> PRT

<213> Homo sapiens

<400> 58

Lys Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr Gly  
 1 5 10

<210> 59

<211> 13

<212> PRT

<213> Homo sapiens

<400> 59

Pro Gly Gln Lys Ala Ile Leu Phe Leu Pro Met Ser Ala  
 1 5 10

<210> 60

<211> 13

<212> PRT

<213> Homo sapiens

<400> 60

Gly His Phe Lys Asp Pro Lys Arg Leu Tyr Cys Lys Asn  
 1 5 10

<210> 61

<211> 13

<212> PRT

<213> Homo sapiens

<400> 61

Gly Gly Phe Phe Leu Arg Ile His Pro Asp Gly Arg Val  
 1 5 10

<210> 62  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 62  
 Asp Gly Val Arg Glu Lys Ser Asp Pro His Ile Lys Leu  
 1 5 10

<210> 63  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Gln Leu Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys  
 1 5 10

<210> 64  
 <211> 13  
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 <213> Homo sapiens

<400> 64  
 Gly Val Ser Ala Asn Arg Tyr Leu Ala Met Lys Glu Asp  
 1 5 10

<210> 65  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 65  
 Gly Arg Leu Leu Ala Ser Lys Ser Val Thr Asp Glu Cys  
 1 5 10

<210> 66  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 66  
 Phe Phe Phe Glu Arg Leu Glu Ser Asn Asn Tyr Asn Thr  
 1 5 10

<210> 67  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 67  
 Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala Leu  
 1 5 10

<210> 68  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 68  
 Lys Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr Gly  
 1 5 10

<210> 69  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 69  
 Pro Gly Gln Lys Ala Ile Leu Phe Leu Pro Met Ser Ala  
 1 5 10

<210> 70  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 70  
 Gly His Phe Lys Asp Pro Lys Arg Leu Tyr Cys Lys Asn  
 1 5 10

<210> 71  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 71  
 Gly Gly Phe Phe Leu Arg Ile His Pro Asp Gly Arg Val  
 1 5 10

<210> 72  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 72  
 Asp Gly Val Arg Glu Lys Ser Asp Pro His Ile Lys Leu  
 1 5 10

<210> 73  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 73

Gln Leu Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys  
 1 5 10

&lt;210&gt; 74

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 74

Gly Val Ser Ala Asn Arg Tyr Leu Ala Met Lys Glu Asp  
 1 5 10

&lt;210&gt; 75

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 75

Gly Arg Leu Leu Ala Ser Lys Ser Val Thr Asp Glu Cys  
 1 5 10

&lt;210&gt; 76

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 76

Phe Phe Phe Glu Arg Leu Glu Ser Asn Asn Tyr Asn Thr  
 1 5 10

&lt;210&gt; 77

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 77

Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala Leu  
 1 5 10

&lt;210&gt; 78

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 78

Lys Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr Gly  
 1 5 10

&lt;210&gt; 79

&lt;211&gt; 13

&lt;212&gt; PRT



<213> Homo sapiens

<400> 79

Pro Gly Gln Lys Ala Ile Leu Phe Leu Pro Met Ser Ala  
 1 5 10

<210> 80

<211> 13

<212> PRT

<213> Homo sapiens

<400> 80

Gly His Phe Lys Asp Pro Lys Arg Leu Tyr Cys Lys Asn  
 1 5 10

<210> 81

<211> 13

<212> PRT

<213> Homo sapiens

<400> 81

Gly Gly Phe Phe Leu Arg Ile His Pro Asp Gly Arg Val  
 1 5 10

<210> 82

<211> 13

<212> PRT

<213> Homo sapiens

<400> 82

Asp Gly Val Arg Glu Lys Ser Asp Pro His Ile Lys Leu  
 1 5 10

<210> 83

<211> 13

<212> PRT

<213> Homo sapiens

<400> 83

Gln Leu Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys  
 1 5 10

<210> 84

<211> 13

<212> PRT

<213> Homo sapiens

<400> 84

Gly Val Ser Ala Asn Arg Tyr Leu Ala Met Lys Glu Asp  
 1 5 10

<210> 85  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 85  
 Gly Arg Leu Leu Ala Ser Lys Ser Val Thr Asp Glu Cys  
 1 5 10

<210> 86  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 86  
 Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala Leu  
 1 5 10

<210> 87  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 87  
 Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala Leu  
 1 5 10

<210> 88  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 88  
 Lys Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr Gly  
 1 5 10

<210> 89  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 89  
 Pro Gly Gln Lys Ala Ile Leu Phe Leu Pro Met Ser Ala  
 1 5 10

<210> 90  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 90  
 Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr  
 1 5 10

<210> 91  
<211> 13  
<212> PRT  
<213> Homo sapiens

<400> 91  
Glu Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala  
1 5 10

<210> 92  
<211> 13  
<212> PRT  
<213> Homo sapiens

<400> 92  
Asn Thr Val Lys Phe Arg Cys Pro Ala Gly Gly Asn Pro  
1 5 10

<210> 93  
<211> 13  
<212> PRT  
<213> Homo sapiens

<400> 93  
Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu Phe  
1 5 10

<210> 94  
<211> 13  
<212> PRT  
<213> Homo sapiens

<400> 94  
Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn  
1 5 10

<210> 95  
<211> 13  
<212> PRT  
<213> Homo sapiens

<400> 95  
Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser  
1 5 10

<210> 96  
<211> 13  
<212> PRT  
<213> Homo sapiens

<400> 96  
 Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr  
 1 5 10

<210> 97  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
 Gly Ser Ile Asn His Thr Tyr His Leu Asp Val Val Glu  
 1 5 10

<210> 98  
 <211> 13  
 <212> PRT  
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<400> 98  
 Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro  
 1 5 10

<210> 99  
 <211> 13  
 <212> PRT  
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<400> 99  
 Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe  
 1 5 10

<210> 100  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 100  
 Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln  
 1 5 10

<210> 101  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 101  
 Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly  
 1 5 10

<210> 102  
 <211> 13

<212> PRT

<213> Homo sapiens

<400> 102

Pro Asp Gly Leu Pro Tyr Leu Lys Val Leu Lys Ala Ala  
 1 5 10

<210> 103

<211> 13

<212> PRT

<213> Homo sapiens

<400> 103

Gly Val Asn Thr Thr Asp Lys Glu Ile Glu Val Leu Tyr  
 1 5 10

<210> 104

<211> 13

<212> PRT

<213> Homo sapiens

<400> 104

Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr  
 1 5 10

<210> 105

<211> 13

<212> PRT

<213> Homo sapiens

<400> 105

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser  
 1 5 10

<210> 106

<211> 12

<212> PRT

<213> Homo sapiens

<400> 106

Ala Trp Leu Thr Val Leu Pro Ala Pro Gly Arg Glu  
 1 5 10

<210> 107

<211> 13

<212> PRT

<213> Homo sapiens

<400> 107

Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr  
 1 5 10

<210> 108  
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 <213> Homo sapiens

<400> 108  
 Glu Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala  
 1 5 10

<210> 109  
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<400> 109  
 Asn Thr Val Lys Phe Arg Cys Pro Ala Gly Gly Asn Pro  
 1 5 10

<210> 110  
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 <212> PRT  
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<400> 110  
 Met Pro Thr Met Arg Thr Leu Lys Asn Gly Lys Glu Phe  
 1 5 10

<210> 111  
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 <212> PRT  
 <213> Homo sapiens

<400> 111  
 Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn  
 1 5 10

<210> 112  
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 <212> PRT  
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<400> 112  
 Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser  
 1 5 10

<210> 113  
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 <212> PRT  
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<400> 113  
 Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr  
 1 5 10

<210> 114  
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 <212> PRT  
 <213> Homo sapiens

<400> 114  
 Gly Ser Ile Asn His Thr Tyr His Leu Asp Val Val Glu  
 1 5 10

<210> 115  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 115  
 Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro  
 1 5 10

<210> 116  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 116  
 Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe  
 1 5 10

<210> 117  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
 Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln  
 1 5 10

<210> 118  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 118  
 Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly  
 1 5 10

<210> 119  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
 Pro Asp Gly Leu Pro Tyr Leu Lys Val Leu Lys Ala Ala  
 1 5 10

<210> 120  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 120  
 Gly Val Asn Thr Thr Asp Lys Glu Ile Glu Val Leu Tyr  
 1 5 10

<210> 121  
 <211> 13  
 <212> PRT  
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<400> 121  
 Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr  
 1 5 10

<210> 122  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 122  
 Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser  
 1 5 10

<210> 123  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens

<400> 123  
 Ala Trp Leu Thr Val Leu Pro Ala Pro Gly Arg Glu  
 1 5 10

<210> 124  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 124  
 Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr  
 1 5 10

<210> 125  
 <211> 13



<212> PRT  
 <213> Homo sapiens  
  
 <400> 125  
 Glu Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala  
   1                  5                  10

<210> 126  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 126  
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